Accessibility Supports and Implications for Educator Decisions

Allison Lawrence, Meagan Karvonen, and Sheila Wells-Moreaux

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Session Goals

- Describe the Dynamic Learning Map (DLM) Assessment system and DLM participants
- Describe the features in the DLM system that promote accessibility
- Describe system accessibility supports most frequently used by teachers administering DLM assessments
- Describe options for flexibility provided outside of the DLM assessment system
- Describe ongoing research on accessibility
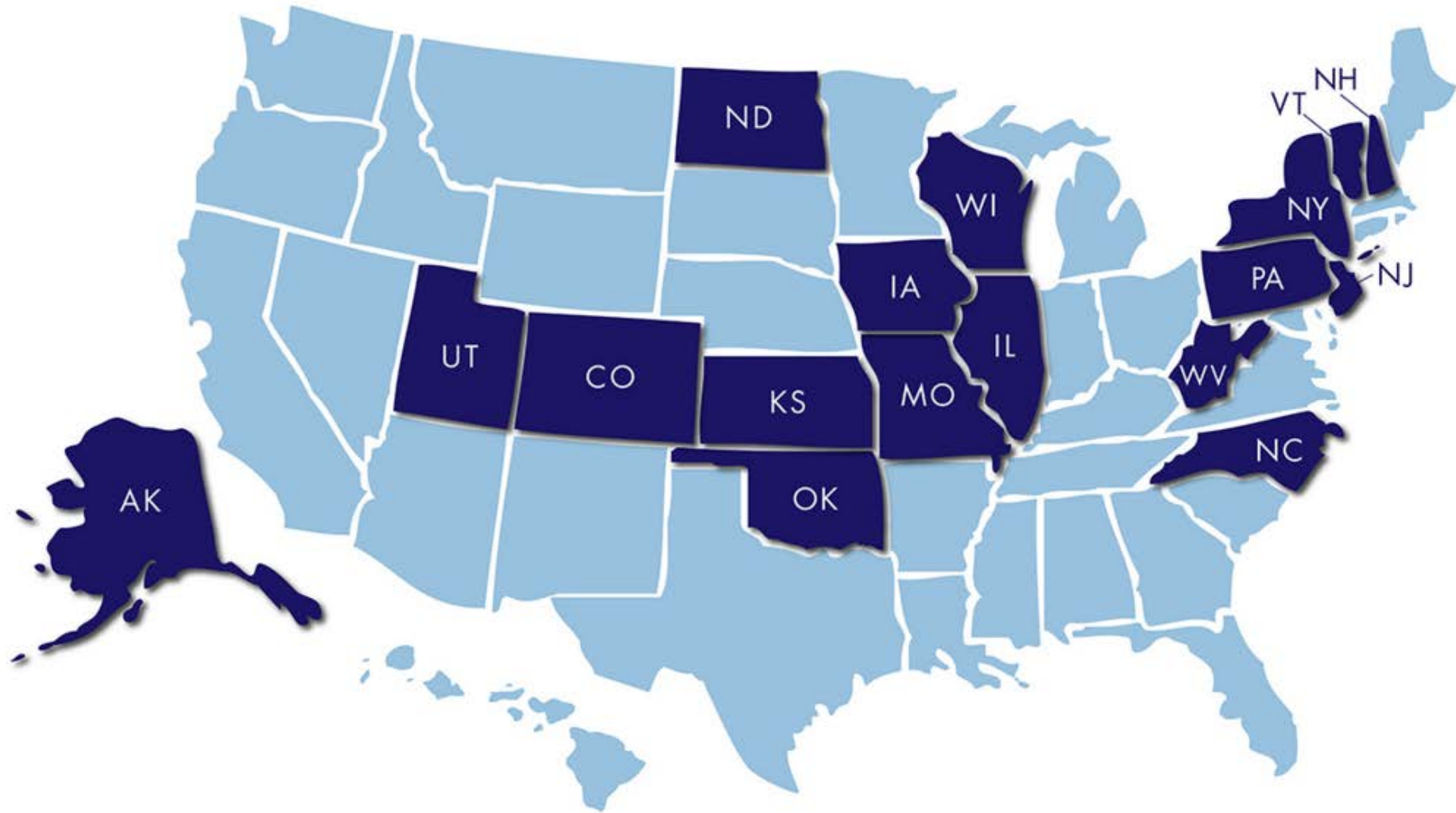- Discuss implications for educator decisions

Session Overview

1. Brief Overview of DLM Project
2. Overview of the DLM Assessments
3. Accessibility in the DLM System
4. Use of Accessibility and Flexibility During Assessment
5. Research on Accessibility
6. Discussion

DLM PARTICIPANTS

Consortium

PA and NC are not operational in 2015-16

A Little Bit About the Students

- Common disability labels include autism, ID, multiple disabilities
- 90%+ can use a computer (independently or with human assistance or AT)
- 76% use speech for expressive communication
  - Speech: 71% use 3 or more words together
  - AAC users: 70% use only 1 symbol at a time

Reported Use of AT for Computer Access

AT Device	Number
Touchscreen	15,005
Computer keyboard using pointer	3,546
Switches	3,422
Keyboard with large keys	2,024
Alternative keyboards	1,252
Head mouse	335
Eye gaze technology	342
Voice recognition software	277
Total	26,203

OVERVIEW OF THE SYSTEM

DLM Essential Elements

- Essential Elements are:
  - The target skill for the grade level
  - Reduced depth, breadth, complexity
  - Provide appropriate level of rigor and challenge
  - Focus on the skills (with multiple means of demonstration)
  - Are <u>not</u> functional or pre-K skills
  - Are <u>not</u> instructional descriptions

Assessment Design

- Testlets
  - Usually assess 1 Essential Element (EE) for each of the five linkage levels
    - Year-End testlets assess multiple EEs at each linkage level
  - 3-8 items
  - Engagement activity
    - ELA: Text or writing task
    - Math: Context at beginning, carried throughout
  - Teacher-administered or computer-delivered

Computer Delivered or Teacher Administered

- ## Computer-Delivered Testlets
  - Tests delivered directly to students via computer
    - Designed to allow students to interact independently with the computer using AT as necessary, or teacher supports
    - More common at upper linkage levels
    - Multiple choice most common task format
    - Sorting and Matching tasks are also used

- ## Teacher-Administered Testlets
  - Delivered outside the KITE system
    - Test administrator sets up, delivers, and records responses

Computer Delivered

The first cake pan Jenny uses has a length of 9 inches. The pan has a width of 10 inches. The pan has a height of 2 inches.

What is the volume of the pan, in cubic inches? [volume = length x width x height]

21 cubic inches

90 cubic inches

180 cubic inches

BACK ⊜

EXIT
DOES
NOT
SAVE

NEXT ⊚

tde-preview.cete.us/TDE/studentHome.htm#

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Teacher Administered

Educator Directions:

SHOW: one of the familiar, identical objects. Then give the student a moment to explore the object.
SHOW: the other familiar, identical object. Then give the student a moment to explore the object.
SHOW: a new or different object.

Record student response:

☐ Attends longer to the new or different object

☐ Attends equally to all of the objects

☐ Attends only to familiar objects

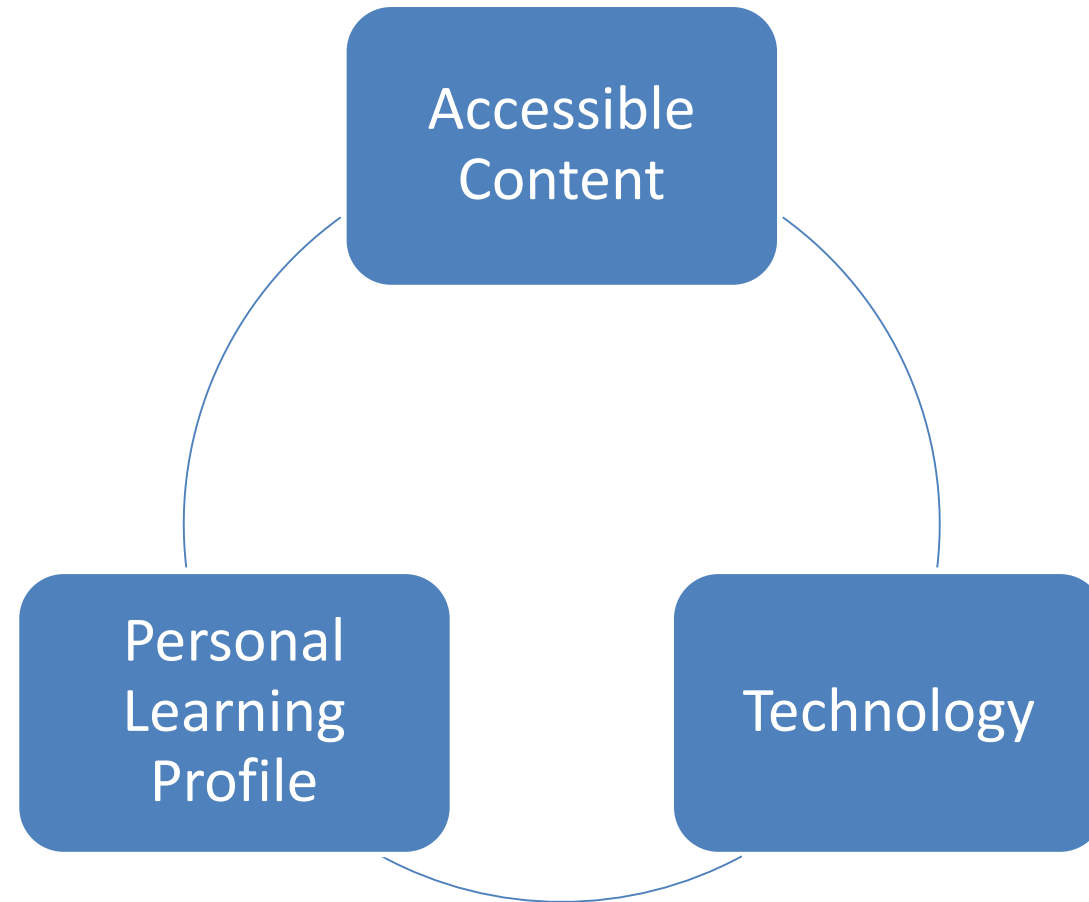☐ Attends to other stimuli

☐ No response

BACK ⬅

EXIT
DOES
NOT
SAVE

NEXT ➡

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ACCESSIBILITY IN THE DLM SYSTEM

Accessibility

Accessible Content

Technology

Personal Learning Profile

Personal Needs and Preferences (PNP)

The PNP is used to select the appropriate accessibility supports within the system, and thus to tailor each student's experience, based on individual needs.

- Display
- Language & Braille
- Audio & Environment
- Other Supports

Supports provided within KITE Client via the PNP Profile

Magnification
Invert Color Choice
Color Contrast
Color Overlay
Spoken Audio
text only
text & graphics
nonvisual

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Supports Requiring Additional Materials/Tools

Uncontracted braille
Single-switch system
Two switch system
Calculator
Alternate Form – Visual Impairment
Individualized manipulatives

Supports Provided by the Test Administrator Outside the System

Human read aloud
Sign interpretation of text
Language translation of text
Test administrator enter responses for student
Partner Assisted Scanning

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ACCESSIBILITY FEATURES AND FLEXIBILITY

Use of Accessibility Supports Activated by PNP
(N = 80,704)

Support	n	%
Magnification	6,308	7.8
Invert Color Choice	3,233	4.0
Color Contrast	4,237	5.3
Overlay Color	4,171	5.2
Read Aloud (TTS)	31,295	38.8

Use of Accessibility Supports Requiring Additional Tools/Materials
(N = 80,704)

Support	n	%
Uncontracted braille	146	0.2
Single-switch system	4,720	5.8
Two switch system	1,019	1.3
Calculator	16,716	20.7
Alternate Form – Visual Impairment	1,806	2.2
Individualized manipulatives	29,969	37.1

Use of Accessibility Supports Provided Outside the System
(*N* = 80,704)

Support	n	%
Human Read Aloud	69,527	86.2
Sign interpretation	1,413	1.8
Language translation	1,315	1.6
Test Administrator enter responses for student	36,069	44.7
Partner-Assisted Scanning (PAS)	5,844	7.2

Options For Flexibility
(*N* = 465)

Other Allowable Practices	n	%
Breaks	265	57.0
Individualized student response mode	54	11.6
Special equipment for positioning	39	8.4
Interactive whiteboard	29	6.2

Options For Flexibility, cont.
($N = 465$)

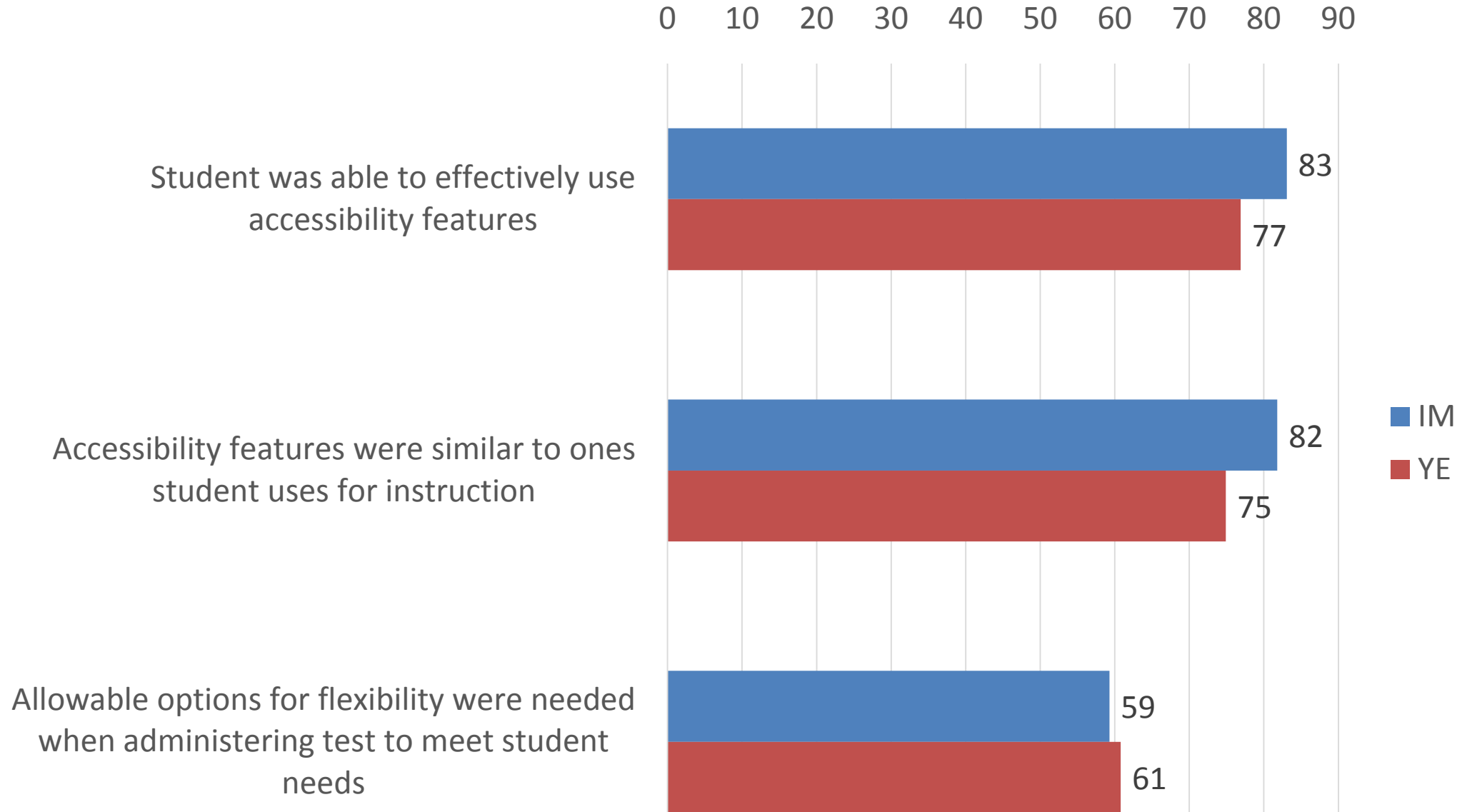| Other Allowable Practices	n	%
Test Administrator navigates screens	189	40.6
Alternate representation of answer choices	101	21.7
Generic definitions	97	20.9
Graphic organizers	14	3.0

RESEARCH ON ACCESSIBILITY

Accessibility Research

- Ongoing
- Supports continuous improvement
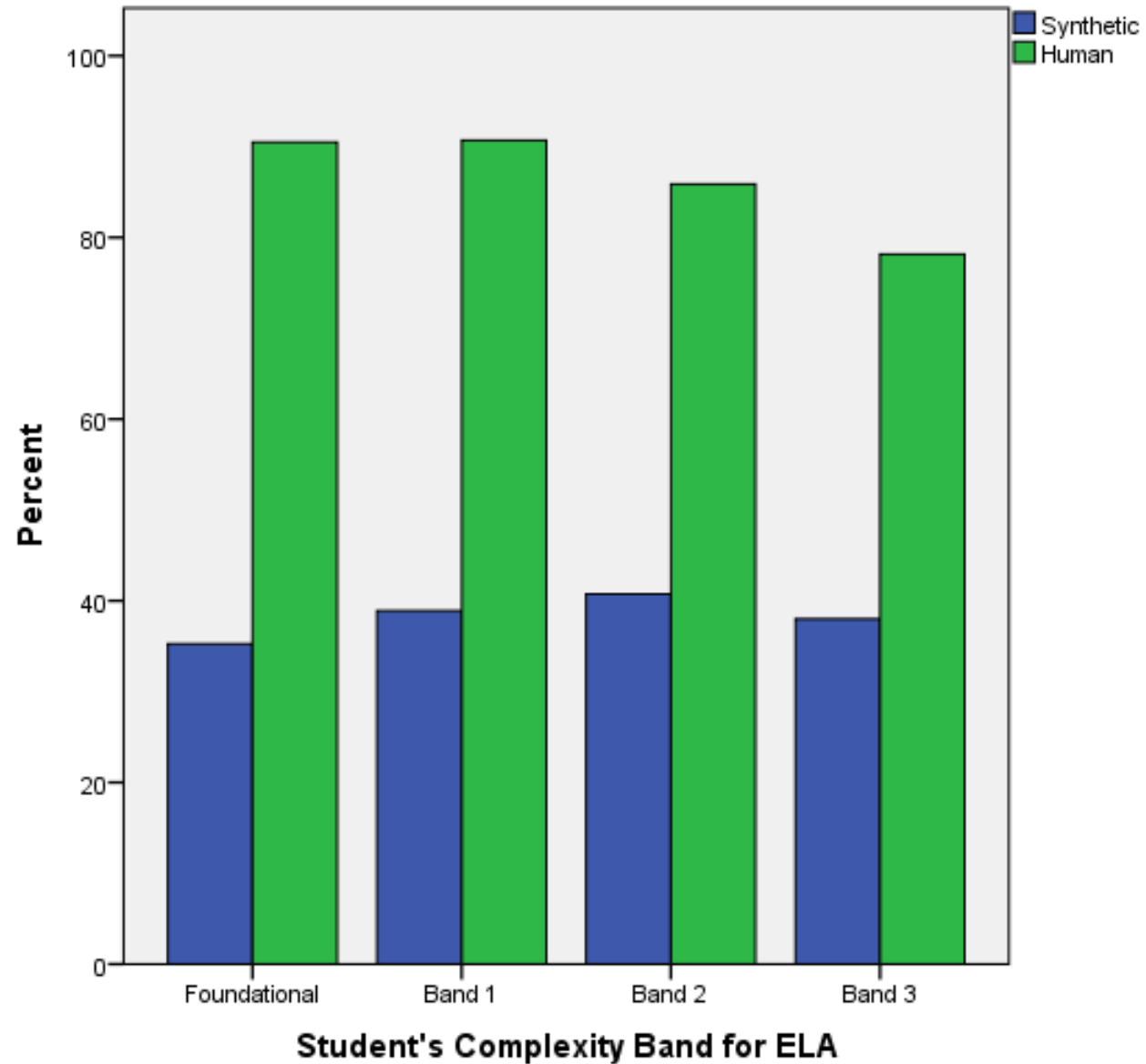- Informs about validity of interpretations that we can make based on results

Examples of Research Questions

1. Which combinations of supports do teachers use?
2. How do teachers make choices about which supports to use?
3. What is the relationship between students' prior academic knowledge or expressive communication skills and the types of supports that are selected?
4. In what areas do teachers have misconceptions about accessibility?
5. Do students with the same knowledge and skills perform the same regardless of accessibility supports that are used?

Percent of Teachers Agreeing with Statements
(Teachers who Assessed One Student)

Student was able to effectively use accessibility features — IM: 83, YE: 77

Accessibility features were similar to ones student uses for instruction — IM: 82, YE: 75

Allowable options for flexibility were needed when administering test to meet student needs — IM: 59, YE: 61

■ IM
■ YE

Synthetic vs. Human Read Aloud

Exploring Support Combinations

What combinations do teachers choose?

For example:

- 27% of students have
  - Human read aloud AND
  - Individualized manipulatives AND
  - Test administrator entering responses

DISCUSSION

Example Supports and Practices

Examples	Use of Supports and Allowable Practices
Example #1: The student has a physical disability that results in limited mobility. The testlet requires the student to manipulate materials.	A student with limited mobility may use their current mode of communication to indicate direction to the test administrator to select answers and/or manipulate materials on behalf of the student.
Example #2: The student uses graphic organizers, manipulatives, or other tools to complete academic work.	The test administrator may use the equipment and materials with which the student is familiar. The student should still interact with the content on the screen, but the educator may navigate and enter answers the student has demonstrated outside KITE Client. See the Testlet Information Page (TIP) for each testlet to see approved or not approved specific manipulatives.

*Additional support examples provided in handout

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Implications for Educator Decisions

- Supports used most frequently
  - Read Aloud - Text to Speech or Human Read Aloud
  - Individualized Manipulatives
  - Calculator Use
- Flexibility practices used most frequently
  - Breaks
  - Test Administrator enters responses/navigates screens
  - Alternate Representations of Answer Options

Incorporation of Supports in the Classroom

- Read Aloud (Text to Speech or Human Read Aloud)
  - Practice listening to computer generated voice and answering questions
  - Practice listening to teacher read text aloud and answer questions
- Individualized Manipulatives
  - Use materials from the common materials list found on the DLM website in daily instruction and during practice assessments

Incorporation of Flexibility in the Classroom

- ## Breaks
  - Using released testlets found online, administer one testlet, then take a break for 3-5 minutes before administering a second released testlet.
- ## Alternate Representations of Answer Options
  - Using released testlets, write or draw answer options on notecards and position them as shown on screen. Have the student practice indicating their response.

THANK YOU!

For more information, please contact:

dlm@ku.edu

or

Go to: www.dynamiclearningmaps.org

For Professional Development, contact:

dlmpd@unc.edu

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Accessibility Issues and Solutions for Dynamic Leaning Maps Assessments

Accessibility Issue	Example Solution
The student has limited experience with, motor skills for, and/or devices for interacting directly with the computer.	The test administrator may navigate the screens. The student may indicate answer choices to the educator and the educator may enter the responses on behalf of the student. The test administrator may only repeat the question as written until the student makes a choice.
The student who is blind and typically reads braille.	Braille forms of the assessments are available for students who use braille. In addition, the test administrator may read aloud (using human read aloud) for students whose braille skills are not strong enough to allow them to demonstrate what they know and understand about the Essential Elements. The test administrator may use familiar objects or create tactile graphics in place of graphics that appear on screen. See instructions in the TEST ADMINISTRATION MANUAL on how to access testlets in braille form.
The student has a severe visual impairment and needs larger presentation of content than the 5x magnification setting provides.	The test administrator may use an interactive whiteboard, projector, or any magnification device that works with the computer screen. For familiar texts in ELA assessments, the test administrator may retrieve the texts from the DLM bookshelf in the Tar Heel Reader library and print the texts in the size and contrast the student needs or read the text to the student.
The student uses sign language to communicate and has limited proficiency in reading text.	The test administrator may sign the text, spelling unfamiliar words and adapting or interpreting the language as needed based on the signs with which the student is familiar.
The student uses low-tech (i.e., not computerized) eye gaze to communicate.	The test administrator may represent the answer options in an alternate format or layout off the computer and enter the student's selected responses.
The student uses eye gaze or another means to indicate yes/no responses.	The test administrator may present the question and options as described: First read the question and go over the response options (in the same order as presented on screen). Then repeat the question and present response option 1, yes/no; response option 2, yes/no; and response option 3, yes/no.
The student uses one or two switches to access the computer but is not 100% consistent or accurate in their use.	The test administrator may use partner-assisted scanning to point to and/or read each answer option. The student should indicate when the desired answer option is presented. The test administrator may also navigate from screen to screen and allow the student to use scanning to select the desired answer on each item screen.

Accessibility Issues and Solutions for Dynamic Leaning Maps Assessments

Accessibility Issue	Example Solution
The student who is blind and does not communicate verbally.	The test administrator may use human read aloud to read the testlet to the student. The test administrator may also use objects and personalized tactile graphics to represent graphics that appear on the computer screen. See the TEST ADMINISTRATION MANUAL for the human read aloud guidelines.
The student needs special equipment for positioning of materials (e.g., slant board) or non-computerized materials (e.g., Velcro objects on a board) to respond to questions.	The test administrator may use the equipment and materials with which the student is familiar. The student should still interact with the content on the screen, but the educator may navigate and enter answers that the student has demonstrated outside the system.
The student requires special technologies to complete the writing assessment.	Students may use whatever writing technologies or supports they use in everyday instruction to complete writing testlets in the DLM alternate assessment as long as the supports involve the use of the alphabet to produce letters and words. Students may not use word banks, picture banks, or symbol/icon-based communication systems for the portion of the assessment that requires writing with the alphabet.

Additional information on allowable supports and flexibility is provided in the Dynamic Learning Maps Accessibility Manual.

The manual can be found online at: http://dynamiclearningmaps.org/content/accessibility.